

CLAIMS

What is claimed is:

- 1 1. A processor comprising:
 - 2 a control register to store a task privilege level for a task; and
 - 3 a privilege remapper coupled to the control register to dynamically remap the
 - 4 stored task privilege level.

- 1 2. The processor of claim 1, wherein the privilege remapper comprises a
2 register to store a plurality of remapped task privilege levels to be accessed using
3 the stored task privilege level prior to runtime privilege checking.

- 1 3. The processor of claim 1, wherein the privilege remapper comprises a
2 storage array to store a plurality of set of remapped task privilege levels to be
3 accessed using a configuration value and the stored task privilege level prior to
4 runtime privilege checking.

- 1 4. The processor of claim 1, wherein the privilege remapper comprises one or
2 more logical elements to logically alter one or more bits of the stored privilege level
3 prior to runtime privilege checking.

- 1 5. The processor of claim 1, wherein the privilege remapper further comprises at
2 least one selector coupled to at least one of the one or more logical elements to
3 effectuate conditional performance of said logically alteration for at least one bit of
4 the stored privilege level prior to runtime privilege checking.

1 6. The processor of claim 1, wherein the processor further comprises at least
2 one selector coupled to the control register and the privilege remapper to effectuate
3 conditional performance of said remapping of the stored task privilege level prior to
4 runtime privilege checking.

1 7. A method comprising:
2 storing a first task privilege level for a task; and
3 dynamically remapping the first task privilege level to a second task privilege
4 level prior to runtime privilege checking to effectuate a different execution privilege
5 level for the task.

1 8. The method of claim 7, wherein said dynamic remapping comprises
2 accessing a register to retrieve a selected one of a plurality of remapped task
3 privilege levels stored in said register, using the stored first task privilege level, prior
4 to runtime privilege checking.

1 9. The method of claim 7, wherein said dynamic remapping comprises
2 accessing a storage array to retrieve a selected one of a plurality of remapped task
3 privilege levels stored in said storage array in a set-wise manner, using a
4 configuration value and the stored first task privilege level, prior to runtime privilege
5 checking.

1 10. The method of claim 7, wherein said dynamic remapping comprises logically
2 altering one or more bits of the stored first task privilege level, prior to runtime
3 privilege checking.

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1 11. The method of claim 10, wherein said altering being conditionally performed.

1 12. The method of claim 1, wherein said dynamic remapping being conditionally
2 performed.

1 13. In a processor having a 4-ring privilege protection scheme, where tasks
2 attributed with a lower ring privilege level is more privileged than tasks attributed
3 with a higher ring privilege level, a method comprising:

4 attributing a ring-2 privilege level to a first task, nominally giving said first task
5 more privilege than a second plurality of tasks which are attributed with a ring-3
6 privilege level; and

7 dynamically remapping each ring-2 privilege level to a ring-3 privilege level,
8 and each ring-3 privilege level to a ring-2 privilege level prior to runtime privilege
9 checking to cause said first task to execute in fact with less privileges than said
10 second plurality of tasks.

1 14. The method of claim 13, wherein said first task is associated with an Internet
2 application.

1 15. The method of claim 13, wherein said second plurality of tasks are associated
2 with an operating system.

1 16. A method comprising:

2 attributing a first privilege level to a first collection of programming
3 instructions, said first privilege level being different from a second privilege level

4 assigned to a second collection of programming instructions, resulting in said first
5 collection of programming instructions to execute with a first relative privilege
6 relationship to said second collection of programming instructions at execution time;
7 and

8 dynamically remapping said first privilege level to a third privilege level prior
9 to runtime privilege checking to cause the first collection of programming instructions
10 to execute with a second different relative privilege relationship to said second
11 collection of programming instructions.

1 17. The method of claim 16, wherein said second and third privilege levels are
2 the same privilege level, and said method further comprises dynamically remapping
3 said second privilege level of said second collection of programming instructions to
4 a fourth privilege level prior to runtime privilege checking.

1 18. The method of claim 17, wherein said first and fourth privilege levels are the
2 same privilege level.

1 19. A method comprising:

2 attributing a first more privileged privilege level to a first subset of least
3 privileged tasks attributed with a least privileged privilege level; and
4 dynamically remapping said first more privileged privilege level attributed to
5 said first subset of least privileged tasks to said least privileged privilege level, and
6 remapping said least privileged privilege level attributed to residual ones of said
7 least privileged tasks prior to runtime privilege checking to cause said first subset of
8 least privileged tasks to execute with lesser privileges than said residual ones of the
9 least privileged tasks.

1 20. The method of claim 21, wherein said least privileged privilege level of said
2 residual ones of said least privileged tasks are remapped to said first more
3 privileged privilege level.

1 21. A method comprising:
2 attributing a first lesser privileged privilege level to a first subset of most
3 privileged tasks attributed with a most privileged privilege level; and
4 dynamically remapping said first lesser privileged privilege level attributed to
5 said first subset of most privileged tasks to said most privileged privilege level, and
6 remapping said most privileged privilege level attributed to residual ones of said
7 most privileged tasks prior to runtime privilege checking to cause said residual ones
8 of the most privileged tasks to execute with lesser privileges than said first subset of
9 most privileged tasks.

1 22. The method of claim 21, wherein said most privileged privilege level of said
2 residual ones of said most privileged tasks are remapped to said first lesser
3 privileged privilege level.

1 23. A processor comprising:
2 a control register to store a privilege level; and
3 a privilege remapper coupled to the control register to dynamically remap the
4 stored privilege level prior to runtime privilege checking.

1 24. The processor of claim 23, wherein the processor further comprises at least
2 one selector coupled to the control register and the privilege remapper to effectuate

3 conditional performance of said remapping of the stored privilege level prior to
4 runtime privilege checking.

1 25. An apparatus comprising:
2 a control register to store a privilege level; and
3 a privilege remapper coupled to the control register to dynamically remap the
4 stored privilege level prior to runtime privilege checking.

1 26. The apparatus of claim 25, wherein the apparatus further comprises at least
2 one selector coupled to the control register and the privilege remapper to effectuate
3 conditional performance of said remapping of the stored privilege level prior to
4 runtime privilege checking.

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